(19) World Intellectual Property Organization International Bureau



) | COLOR BUILDO DE ESTADO CORRECTOR BRADO DOS DE COLOR COLO

(43) International Publication Date 8 September 2006 (08.09.2006) (10) International Publication Number WO 2006/092658 A2

- (51) International Patent Classification: *G01N 33/53* (2006.01)
- (21) International Application Number:

PCT/IB2005/003652

(22) International Filing Date:

2 December 2005 (02.12.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004-351086

3 December 2004 (03.12.2004) JF

- (71) Applicant (for all designated States except US): NISSAN MOTOR CO., LTD. [JP/JP]; 2, Takara-cho, Kana-gawa-ku, Yokohama-shi, Kanagawa 221-0023 (JP).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): NISHIUCHI, Hidekazu [JP/JP]; 3-10-4-1401, Takasu, Mihama-ku, Chiba-shi, Chiba 261-0004 (JP).
- (74) Agents: BASILE, Andrew, R., Jr. et al.; Young & Basile, P.C., 3001 West Big Beaver Road, Suite 624, Troy, MI 48084-3107 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

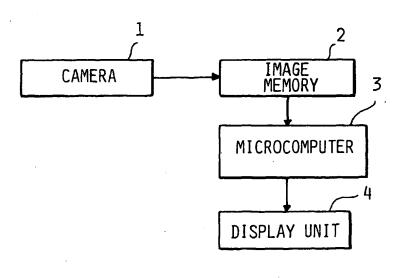
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR DETECTING OBJECTS



(57) Abstract: An apparatus for detecting an object is provided which detects the pitching of a vehicle, and detects the presence of an object the front of the vehicle itself with the pitching being taken into consideration. apparatus includes a microcomputer that performs image processing for the image of the object to compute the velocity and acceleration of the object present in the picked-up image, and based on the computed acceleration of the object, to determine whether the image was captured when the vehicle itself was balanced. If the image is judged to be an image captured when the vehicle itself was not balanced, then the position of the object r resent in the picked-up image is computed based on another picked-up image that was captured when the vehicle itself was balanced.

WO 2006/092658 A2 ||||||||||